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(54) LINEAR ACTUATOR AND OPTICAL INSTRUMENT USING THE LINEAR ACTUATOR

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a linear actuator at a low cost with a simple structure, which has a superior S/N ratio and whose magnetic sensor has difficulty in having influence of magnetic leakage from a drive magnetic circuit by using the magnetic sensor as a position detection means.

SOLUTION: This lens drive device is constituted by forming a coil at the lens holder 1 of movable part side, forming a pair of drive magnetic circuits which are formed at a lens-barrel 3 on the fixed side, roughly bilaterally-symmetrically in a drive direction (X-direction), at a position roughly facing each other with a lens optical axis centered symmetrically. By forming a magnetic scale 11 on the lens holder 1 side as a position detection means, and a magnetic sensor 10 whose MR element is fitted at the lens lens-barrel 3, the magnetic sensor 10 is formed at the almost central position of a pair of the magnetic circuits and in the almost symmetrical center in a driving direction. The direction of flowing current through the MR element is disposed almost in parallel with the magnetizing direction (Z-direction) of the magnet of a pair of drive magnetic circuits.

